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SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

Colorado River Drainage Basin

By

Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Colorado Agricultural Experiment Station

Data included in this report were obtained by the agencies named above in cooperation with the U. S. Forest Service, National Park Service, State Engineers of Colorado, Wyoming and New Mexico and other Federal, State and local organizations.

As of

APR. 1, 1952

FEDERAL-STATE COOPERATIVE

SNOW SURVEYS AND IRRIGATION

WATER SUPPLY FORECASTS

FOR

COLORADO RIVER BASIN

April 1, 1952

Report Prepared

by

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Division of Irrigation
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Colorado Experiment Station
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General Series Paper No. 516
Colorado Agricultural Experiment Station

WATER SUPPLY OUTLOOK
COLORADO RIVER DRAINAGE
April 1, 1952

The snow-melt season discharge of the Colorado River into Lake Mead will probably be the largest for any year since Hoover Dam was completed. Snow water contents measured on practically all courses in Colorado and Utah are at a record high. Somewhat less snow has occurred on the Green River watershed in Wyoming and at lower elevations in New Mexico. Soil moisture conditions throughout the Upper Basin are described as very good.

From Arizona after a series of dry years it is reported that with the exception of the Gila River drainage there is more water stored on this date than for any previous year of record. Additional runoff is expected from existing snow cover. Stream flow as of April 1 was measured as 3830 second-feet for the Salt River, 1110 for the Tonto and 4640 for the Verde.

COLORADO RIVER AND TRIBUTARIES IN COLORADO

Snow water contents measured on the Upper Colorado River watershed in Colorado range from 150 to 200 percent of normal as of this date. Record high snow fall has occurred in most areas. Snow cover in all areas is well above April 1, 1951. In January and February snow had fallen in the valley areas accumulating to unusual depths at relatively low elevations. As a result of this snow melt soil moisture conditions are very good in all areas of the western slope of Colorado. Stream flow is now slightly above normal. Storage in principal reservoirs is similar to a year ago.

In respect to normal, snow cover on major tributaries to the Colorado River in Colorado is as follows: Colorado River above Glenwood Springs 154 percent of normal, Roaring Fork 155 percent, Gunnison 174 percent, San Juan 173 percent, Animas 239 percent, Yampa 148 percent and White 154 percent. Snow cover in the Grand Mesa area is about 160 percent of normal.

COLORADO RIVER TRIBUTARIES IN UTAH

Seasonal snow water accumulation on the Utah tributaries of the Colorado is also very much above normal, particularly on the streams in southern Utah. On the Duchesne and Green River snow water content is about 130 percent of normal. On the Price, San Rafael and Virgin Rivers snow water contents are 200 percent of normal. Soil moisture conditions in irrigated areas are described as good.

GREEN RIVER IN WYOMING

The snow cover on the Green River in Wyoming is less than for other Upper Colorado tributaries at 120 percent of normal. The mountains to the west of the river have relatively higher snow water content than for the Continental Divide to the east. Soil moisture conditions are reported as good and stream flow above normal.

COLORADO RIVER
TRIBUTARIES IN ARIZONA

With the exception of the Gila River Drainage area, the watersheds of the State have more snow stored water for this time of year than any previous year of record. Snow depths on the Salt River Drainage range from 4 to 4½ feet, and contain up to 17 inches of water. Low elevation courses on this drainage are now running off rapidly. A late Spring has delayed this snow melt. However, during the last week the rivers have risen sharply.

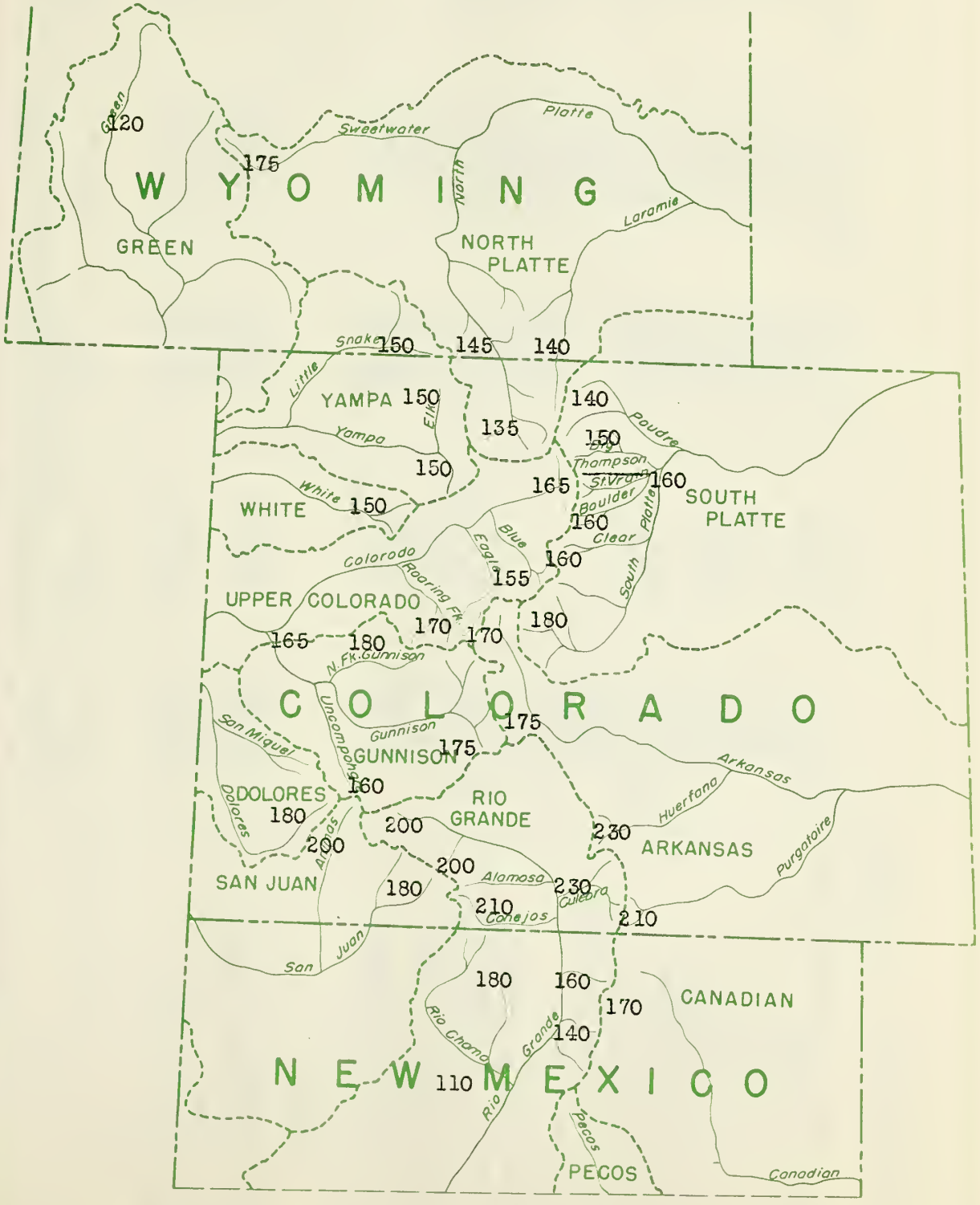
The Verde River Drainage is storing between 7 and 12 inches of water above the 7000-foot level. Slopes below this elevation are melting very rapidly.

The Gila River watershed is practically bare of snow. However, the soil moisture conditions are very good. Runoff from this watershed will be considerably below normal.

It is expected that the reservoirs on the Verde River will fill by the middle of April, and it is forecast that the Salt River Reservoirs will near 90 percent of capacity by the end of June.

WATER CONTENT OF SNOW ON THE WATERSHEDS OF PLATTE, ARKANSAS, UPPER COLORADO AND RIO GRANDE BASINS BASED ON SNOW SURVEYS MADE APPROXIMATELY FIRST DAY OF MONTH

In Percent of Normal
April 1, 1952



COLORADO RIVER DRAINAGE BASIN
STREAM FLOW FORECASTS, APRIL 1, 1952

BASIN AND STREAM	April-Sept., Incl., Streamflow, Acre Feet				
	Forecast 1952	Measured Runoff 1951	1950	1949	10-year Avg. 1941-1950
GREEN					
Green at Linwood, Utah	1,700,000	1,879,000	2,118,000	1,145,000	1,351,000
Little Snake at Lily	475,000	254,000	320,000	493,000	358,000
Elk at Clark	325,000		224,000	207,000	213,000
Yampa at Steamboat Springs	400,000	244,000	245,000	340,000	271,000
White at Meeker	450,000	324,000	303,000	404,000	330,000
COLORADO					
Colorado near Granby	325,000*	15,000**	144,000	137,000	---
Willow Creek near Granby	70,000	50,000	56,000	56,000	36,000
Frazer at Granby	175,000*	121,000	73,000	122,000	99,000
Blue Above Green Mt. Res.	500,000	367,000	254,000	318,000	287,000
Colorado at Glenwood Springs	2,200,000*	1,515,000**	1,112,000	1,581,000	1,443,000
Roaring Fork at Glenwood Springs	1,250,000	719,000	633,000	799,000	777,000
Plateau Creek at Collbran	110,000		52,000	58,000	61,000
Gunnison at Iola	1,000,000		472,000	672,000	575,000
Uncompahgre at Colona	275,000		92,000	195,000	175,000
Surface Creek near Cedaredge	35,000			15,000	18,000
Gunnison at Grand Junction	2,750,000	590,000	1,018,000	1,751,000	1,611,000
San Juan at Rosa, N.M.	1,100,000	270,000	379,000	973,000	743,000
Piedra Creek at Piedra	500,000		121,000	307,000	226,000
Los Pinos near Bayfield	425,000	126,000	168,000	314,000	240,000
Florida near Durango	140,000	27,000	37,000	99,000	73,000
Animas at Durango	950,000	262,000	323,000	694,000	551,000
La Plata at Hesperus	65,000		17,000	45,000	31,000
Dolores at Dolores	550,000	121,000	207,000	359,000	335,000
Colorado near Grand Canyon-Ariz.	17,200,000	7,565,000	8,271,000	11,645,000	10,315,000

*Including diversions and storage
**Actual flow only

SNOW SURVEYS AND IRRIGATION WATER SUPPLY FORECASTS

COLORADO RIVER BASIN

STATUS OF RESERVOIR STORAGE, April 1, 1952

BASIN AND STREAM	RESERVOIR	USABLE CAPACITY (Thous.A. Ft.)	THOUSANDS ACRES FEET IN STORAGE About April 1, 1952				
			1952	1951	1950	1949	10-year Avg.* 1942-1951
COLORADO DRAINAGE							
Taylor River	Taylor Park	106.2	55.4	51.1	72.6	65.0	71.6
Los Pinos River	Vallecito	126.3	26.6	27.1	55.0	33.5	39.9
Groundhog Creek	Groundhog	21.7	4.0	3.5	8.0	6.0	9.6
Blue River	Green Mountain	146.9	84.7	63.2	68.4	53.8	52.5
Colorado River	Lake Mead	27935.0	15691.0	16806.0	17686.0	17735.0	18432.6
Colorado River	Lake Havasu	688.0	600.9	604.2	663.4	607.9	
SALT AND GILA DRAINAGE							
Salt River	Roosevelt	1420.0	674.5	4.8	276.1	331.3	470.0
" "	Horse Mesa	245.0	232.2	135.0	227.1	140.7	211.0
" "	Mormon Flat	58.0	51.9	54.0	51.2	35.1	47.9
" "	Stewart Mt.	70.0	49.5	48.0	48.8	37.2	51.4
Verde River	Bartlett	200.0	156.3	6.6	59.7	117.6	75.7
	Horseshoe	67.0	111.7	1.0			12.4
Aqua Fria River	Carl Pleasant	173.0			6.7	29.6	19.9
Gila River	San Carlos	1200.0	160.5	0.0	73.3	260.3	200.4

* Some for shorter periods

SNOW SURVEYS AND IRRIGATION WATER FOREGASTS
for
COLORADO RIVER BASIN

SUMMARY OF APRIL 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth 1952 Inches	Snow Water Content in Inches				No. of Courses in Average	Snow Density 1952 Percent	1952 Water Content in Percent of	
		1952	1951	1950	15 yr.* Average			1951	15 yr. Avg.*
COLORADO RIVER									
Colorado River**	66.4	21.4	17.9	13.1	13.9	20	32	120	154
Roaring Fork	64.6	21.9	15.9	14.4	14.1	5	34	138	155
Plateau Creek	102.7	38.4	15.9	24.6	22.7	2	37	24.1	169
Green River	51.2	15.7	14.4	14.5	11.5	10	31	109	137
Yampa River	87.0	31.2	22.8	22.4	21.1	5	37	137	148
White River	72.1	26.2	15.0	15.7	17.1	2	36	175	154
Gunnison River	80.0	28.7	14.4	17.0	16.5	10	36	200	174
Dolores River	60.9	18.9	7.9	10.6	11.6	4	31	240	162
San Juan River	68.9	28.3	9.4	14.5	16.4	5	41	300	173
Animas River	56.4	18.9	4.9	4.6	7.9	2	34	385	239
Gila River	5.8	2.4	0.0	0.0	1.2	5	41	---	200
Salt River	4.5	1.8	0.0	0.0	0.4	5	40	---	450
Verde River	9.4	3.9	0.0	0.0	1.3	6	41	---	300
Little Colo.River	10.7	4.0	0.0	0.0	2.5	5	37	---	160
Williams River	0.0	0.0	0.0	0.0	0.0	3	--	---	---
Lower Colo.River	26.8	10.5	1.5	2.1	2.4	4	39	700	438

**Above Glenwood Springs *Some for shorter periods.

PRECIPITATION DATA

WATERSHED	STATE	Precipitation* October 1 to March 31	Departure from Normal	Precipitation* March	Departure from Normal
Colorado	Colorado	13.03	+3.65	1.92	+0.07
Green	Wyoming	5.33	+0.91	0.85	+0.06
San Juan	New Mexico	9.23	+0.50	0.61	-0.43
Colorado	Arizona	12.31	+4.47	2.71	+1.22
Gila	Arizona	10.31	+2.82	2.06	+1.18

COLORADO RIVER DRAINAGE SNOW SURVEYS
April 1, 1952

Drainage Basin and Snow Course	Location: No. and State	Sec.	Twp.	Range	Elev.	Snow Cover Measurements: Date of Survey	Snow Depth (Inches)	Water Content (Inches): 1952	1951	1950	Past Record: Yrs. of Rec.	Av. Water Content (Inches)
						COLORADO RIVER						
COLORADO RIVER (above Glenwood Springs)												
Cameron Pass*	1 Colo.	2	6N	76W	10300	4/1	87.4	28.8	25.0	18.5	16	21.2
Park View*	7 "	24	5N	78W	9200	4/3	53.1	16.9	8.7	12.5	16	10.4
Phantom Valley	12 "	7	5N	75W	9300	3/28	58.0	19.0	13.5	9.9	16	10.1
Hoosier Pass	14 "	13	8S	78W	11400	4/1	65.6	19.0	17.6	10.6	16	12.4
Berthoud Pass	16 "	35	2S	75W	9700	4/1	71.3	23.4	18.3	14.7	16	15.9
Tennessee Pass	19 "	21	8S	80W	10200	3/27	61.9	19.1	13.2	9.2	16	9.2
M.Fork Camp Gr.	37 "	16	3S	77W	9000	4/1	54.9	15.8	13.4	8.2	16	10.0
Fiddler Gulch	44 "	1	8S	80W	11000	3/31	74.9	26.3	22.1	16.4	16	15.4
Lulu	59 "	25	6N	76W	10200	3/29	68.5	21.7	21.7	16.9	14	17.1
Willow Creek P.	62 "	1	4N	78W	9500	4/3	65.9	20.5	12.6	17.6	14	13.0
N.Inlet Grand L.	64 "	26	4N	75W	9000	3/29	50.3	17.9	11.3	7.6	14	9.3
Lake Irene	65 "	8	5N	75W	10600	3/30	82.0	30.8	30.2	20.9	14	21.7
Arrow	69 "	34	1S	75	9900	3/31	59.1	18.5	12.5	9.7	14	9.9
Lapland	70 "	16	2S	76W	9500	3/31	62.0	18.8	15.4	14.7	14	11.5
Fremont Pass#2	79 "	2	8S	79W	11400	3/28	73.3	23.0	22.9	16.2	16	16.3
Lynx Pass	91 "	27	2N	88W	9100	3/29	60.3	18.5	12.1	12.6	16	12.8
Shrine Pass	96 "	13	6S	79W	10500	3/28	71.9	24.1	22.4	17.5	10	17.8
Grizzly Peak	97 "	2	5S	76W	11250	3/30	76.6	27.0	24.3	19.1	10	18.3
Glen-Mar Ranch	102 "	31	2S	77W	8850	4/1	54.8	15.7	12.3	6.5	5	9.2
Monarch Lake	105 "	30	2N	74W	8500	3/29	60.1	19.1	14.6	6.2	4	11.4
Granby	112 "	11	2N	77W	8700	3/28	41.1	12.0	7.6	7.4	3	7.8
Grand Lake	127 "	36	4N	75W	8600	3/28	42.3	16.1	1005	6.0	3	9.3
Berthoud Summit	138 "	10	2S	75W	11300	8/28	76.4	24.0	17.3	—	1	17.3
Frazer View	139 "	34	2S	75W	10600	3/28	58.9	16.0	15.5	—	1	15.5
Gore Pass	143 "	2	1N	82W	8900	3/29	49.5	15.0	9.2	--	1	9.2
Frisco	146 "	18	6S	78W	9300	3/28	41.7	12.0	11.4	--	1	11.4
Snake River	147 "	9	5S	76W	9700	3/30	46.7	14.0	13.3	--	1	13.3
Summit Ranch	158 "	8	4S	78W	10000	3/30	48.5	15.0	11.7	—	1	11.7
			Average for drainage				66.4	21.4	17.9	13.1		13.9

COLORADO RIVER SNOW SURVEYS
April 1, 1952

Drainage Basin and Snow Course	Location					Date of Survey	Snow Depth (Inches)	Snow Course Measurements				
								Water Content (Inches)			Past Record	
	No. and State	Sec.	Twp.	Range	Elev.			1952	1951	1950	Yrs. of Record	Av. Water Content(In.)
ROARING FORK												
Ind.-Pass Tunnel	33 Colo.	30	11S	82W	10700	3/29	69.0	22.3	20.3	20.3	16	18.5
North Lost Trail	34 "	20	11S	87W	9200	3/30	70.8	27.1	15.7	14.7	16	14.5
Nast	45 "	1	9S	83W	8700	3/29	41.2	11.2	8.7	6.0	16	5.9
Ivanhoe	107 "	12	9S	82W	10400	3/28	75.2	27.0	20.8	13.9	5	16.8
Woods Lake	131 "	2	8S	83W	11000	3/28	68.8	23.0	14.1	17.2	3	14.8
Ruby	144 "	1	12S	83W	11500	3/29	62.3	20.7	15.8	--	1	--
	Average for drainage						64.6	21.9	15.9	14.4		14.1
YAMPA RIVER												
Dry Lake	6 Colo.	26	7N	84W	8300	4/2	79.2	30.2	19.6	20.0	16	20.2
Columbine Lodge*	8 "	21	5N	82W	9300	3/31	98.8	33.4	29.7	24.3	16	23.1
Elk River	9 "	6	10N	85W	8700	4/2	74.4	26.7	19.4	18.2	16	17.3
Lynx Pass *	91 "	27	2N	83W	9100	3/29	60.3	18.5	12.1	12.6	16	12.8
Routt Line	140 "	13	5N	83W	9700	3/31	141.8	49.4	43.2	--	1	
Rabbit Ears	141 "	30	5N	83W	9550	4/1	105.1	37.7	29.9	--	1	
Yampa View	142 "	21	5N	84W	8500	4/1	64.8	21.9	15.3	--	1	
Old Battle *	9 Wyo.	29	14N	85W	9800	3/28	122.6	47.8	33.3	37.0	16	32.3
	Average for drainage						87.0	31.2	22.8	22.4		21.1
WHITE RIVER												
Burro Mountain	35 Colo.	15	2S	91W	9000	3/31	82.3	29.5	13.5	17.2	16	18.5
Rio Blanco	36 "	28	1N	88W	8500	4/1	62.0	23.0	16.5	14.2	16	15.8
	Average for drainage						72.1	26.2	15.0	15.7		17.1

*On adjacent drainage

COLORADO RIVER SNOW SURVEYS
April 1, 1952

Drainage Basin and Snow Course	Location No. and State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (Inches)	Snow Course Measurements: Water Content (Inches) 1952	1951	1950	Past Record: Yrs. of Rec.	Av. Water Content (Inches)
					COLORADO RIVER							
PLATEAU CREEK												
Mesa Lakes	56 Colo.	35	11S	96W	10000	3/31	79.4	27.6	11.0	15.4	15	17.4
Trickle Divide	85 "	23	11S	94W	10000	4/1	126.0	49.1	20.8	33.8	12	28.1
	Average for drainage						102.7	38.4	15.9	24.6		22.7
GUNNISON RIVER												
Crested Butte	18 Colo.	22	13S	86W	9000	4/1	78.5	26.7	16.0	16.9	16	14.9
Marshall Pass	42 "	24	48N	6E	10800	3/30	61.0	21.0	14.2	9.4	16	13.0
Poncha Creek*	43 "	19	48N	7E	10500	3/30	56.2	18.7	12.5	7.5	16	11.1
Park Cone	46 "	19	14S	82W	9700	4/1	66.9	22.4	11.0	13.8	15	10.2
Alexander Lake	53 "	2	12S	25W	10000	4/3	108.6	38.9	16.6	23.8	15	23.6
Snowshoe Mesa	55 "	14	13S	89W	7500	3/30	43.8	15.3	6.0	11.6	15	8.0
Ironton Park	58 "	29	43N	7W	9800	3/30	66.0	22.8	8.7	7.3	15	13.7
Trickle Divide	85 "	23	11S	94W	10000	4/1	126.0	49.1	20.8	33.8	12	28.1
Park Reservoir	87 "	34	11S	94W	9500	4/2	118.5	46.9	19.2	31.6	12	25.8
Porphyry Creek	89 "	19	49N	6E	10800	3/28	74.5	25.4	19.2	14.2	12	16.9
Kannah Creek	101 "	5	12S	95W	10700	4/1	103.1	37.7	17.1	22.7	5	24.6
Lake City	104 "	13	43N	4W	10300	4/1	40.9	12.5	5.3	4.5	4	7.4
Cochetopa Pass*	126 "	12	45N	3E	10000	3/31	34.2	6.1	4.7	3.0	3	5.3
McClure Pass	132 "	1	11S	89W	9500	3/30	73.7	28.6	14.9	18.5	2	16.7
Red Mt. Pass	153 "	13	42 N	8W	11000	4/1	110.2	44.0	29.1	--	1	--
	Average for drainage						80.0	28.7	14.4	17.0		16.5
SAN JUAN RIVER												
Wolf Creek Pass*	26 Colo.	4	37N	2E	10000	3/31	131.3	55.3	20.3	31.2	16	30.0
Upper San Juan	29 "	10	37N	1E	10000	3/31	142.3	58.6	22.5	34.1	16	33.6
Granite Peaks	93 "	24	37N	6W	7950	3/31	29.5	9.7	0.0	0.0	11	6.7
La Plata	135 "	4	36N	11W	9700	4/1	69.6	28.4	11.6	13.7	2	--
Wolf Creek Summit	155 "	6	37N	2E	11000	3/30	130.7	52.1	19.0	--	1	--
Chama Divide*	17 N.M.		36.9N	106.7W	7750	3/31	0.0	0.0	0.0	0.0	12	2.9
Chamita*	18 "		36.9N	106.7W	8500	3/31	41.4	18.0	4.2	7.3	10	8.7
	Average for drainage						68.9	28.3	9.4	14.5		16.4

*On adjacent drainage

COLORADO RIVER SNOW SURVEYS
April 1, 1952

Drainage Basin and Snow Course	Location: No. and State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (Inches)	Snow Cover Measurements: Water Content (Inches) 1952	1951	1950	Past Records: Yrs. of Rec.	Av. Water Content (Inches)
ANIMAS RIVER												
Silverton Sub.S.	30 Colo.	10	41N	7W	9400	4/1	45.7	14.3	3.4	1.9	16	4.7
Cascade	31 "	12	39N	9W	8850	4/1	67.1	23.5	6.4	7.4	16	11.1
Spud Mt.	149 "	32	40N	8W	10700	4/1	98.9	32.8	18.6	--	1	--
Molas Lake	150 "	7	40N	7W	10500	4/1	81.5	31.2	8.9	--	1	--
Howardville	151 "	15	41N	7W	9800	4/1	66.2	20.3	9.0	--	1	--
Mineral Creek	152 "	35	42N	8W	10300	4/1	78.8	20.8	12.0	--	1	--
Red Mt. Pass	153 "	13	42N	8W	11000	4/1	110.2	44.0	29.1	--	1	--
	Average for drainage						56.4	18.9	4.9	4.6		7.9
DOLORES RIVER												
Rico	23 Colo.	11	39N	11W	8700	3/31	51.2	20.4	3.4	8.0	16	8.1
Telluride	24 "	6	42N	8W	8600	4/1	42.3	11.0	6.1	7.4	16	7.5
Lizard Head	25 "	24	41N	10W	10300	4/1	81.5	30.0	14.0	18.1	16	19.5
Trout Lake	114 "	8	41N	9W	9700	3/30	70.3	22.7	8.0	9.2	3	11.5
	Average for drainage						60.9	21.0	7.9	10.6		11.6
GILA RIVER												
Frisco Divide	11 N.M.	21	6S	20W	8000	4/1	2.5	0.9	0.0	0.0	13	0.7
State Line	14 "	5	6S	21W	8000	4/1	1.5	0.7	0.0	0.0	13	5.0
Taylor Creek	22 "	20	10S	10W	7850	--	--	--	0.0	0.0	9	0.1
Inman	23 "	6	11S	10W	7800	--	--	--	0.0	0.0	6	0.1
Nutrioso	1 Ariz.	23	6N	30E	8500	3/31	5.8	2.0	0.0	0.0	14	0.6
Beaver Head	2 "	13	4N	30E	8000	4/1	6.8	3.2	0.0	0.0	12	0.8
Coronado Trail	3 "	26	5N	30E	8000	3/31	12.2	5.3	0.0	0.0	14	1.1
Rose Canyon	29 "	15	12S	16E	7300	3/31	4.6	1.7	0.0	0.0	2	--
Bear Wallow	30 "	6	12S	16E	8100	3/31	16.3	6.3	0.0	0.0	2	--
	Average for drainage						5.8	2.4	0.0	0.0		1.2

*On adjacent drainage.

COLORADO RIVER SNOW SURVEYS
April 1, 1952

Drainage Basin and Snow Course	Location: No. and State	Sec.	Twp.	Range	Elev.	Snow Cover Measurements: Date of Survey	Snow Depth (Inches)	Water Content (Inches): 1952	1951	1950	Past Record: Yrs. of Rec.	Av. Water Content (Inches)
					COLORADO RIVER							
SALT RIVER												
Forest Dale	5 Ariz.	2	9N	21E	6000	4/1	0.0	0.0	0.0	0.0	13	0.0
McNary	4 "	14	8N	23E	7200	--	--	--	0.0	0.0	13	0.2
Nutrioso	1 "	23	6N	30E	8500	3/31	5.8	2.0	0.0	0.0	14	0.6
Coronado Trail	3 "	26	5N	30E	8000	3/31	12.2	5.3	0.0	0.0	14	1.1
Milk Ranch	6 "	28	8N	23E	7000	4/1	0.0	0.0	0.0	0.0	10	0.0
Workman Creek	31 "	33	6N	14E	5860	--	--	--	0.0	0.0	2	--
Maverick Fork	23 "	13	6N	27E	9050	--	--	--	--	1.5	2	--
Baldy	22 "	28	7N	27E	9000	4/2	40.6	14.7	0.0	0.0	2	--
Fort Apache	21 "	18	7N	27E	9000	4/2	45.9	16.2	3.8	0.0	2	--
Pacheta	20 "				7800	4/1	12.0	4.9	0.0	0.0	2	--
			Average for drainage				4.5	1.8	0.0	0.0		0.4
LITTLE COLORADO RIVER												
Forest Dale*	5 Ariz.	2	9N	21E	6000	4/1	0.0	0.0	0.0	0.0	13	0.0
McNary	4 "	14	8N	23E	7200	--	--	--	0.0	0.0	13	0.2
Nutrioso*	11 "	23	6N	30E	8500	3/31	5.8	2.0	0.0	0.0	4	6.0
Mormon Lake	13 "	13	18N	8E	7350	4/2	21.1	8.3	0.0	0.0	5	5.1
Fort Valley	12 "	22	22N	6E	7350	4/1	13.4	5.6	0.0	0.0	5	1.2
Mormon Mt.	19 "	14	18N	8E	7500	1/3	28.0	11.1	0.0	0.0	2	--
			Average for drainage				10.7	4.0	0.0	0.0		2.5

*On adjacent drainage

COLORADO RIVER SNOW SURVEYS
April 1, 1952

Drainage Basin and Snow Course	Location: No. and State	Sec.	Twp.	Range	Elev.	Snow Course Measurements: Date of Survey	Snow Depth (Inches)	Water Content (Inches): 1952	1951	1950	Past Record: Yrs. of Rec.	Av. Water Content (Inches)
COLORADO RIVER												
VERDE RIVER												
Iron Springs*	7 Ariz.	22	14N	3W	6200	4/1	0.0	0.0	0.0	0.0	5	0.0
Camp Wood	8 "	3	16N	6W	5700	4/1	0.0	0.0	0.0	0.0	6	0.1
Mingus Mountain	14 "	3	15N	2E	7100	4/1	0.0	0.0	0.0	0.0	5	5.1
Morman Lake*	13	13	18N	8E	7350	4/2	21.1	8.3	0.0	0.0	5	0.0
Fort Valley*	12 "	22	22N	6E	7350	4/1	13.4	5.6	0.0	0.0	5	1.2
Chalender*	9 "	27	22N	3E	7100	4/1	22.1	9.3	0.0	0.0	5	1.5
Munds Park	18 "	7	18N	7E	6500	---	--	--	0.0	0.0	2	--
Casner Park	17 "	19	18N	8E	6930	--	--	--	0.0	0.0	2	--
Mormon Mt.	19 "	14	18N	8E	7500	4/3	28.0	11.1	0.0	0.0	2	--
Antelope Park	16	29	19N	8E		--	--	--	0.0	0.0	3	--
	Average for drainage						9.4	3.9	0.0	0.0		1.3
WILLIAMS RIVER												
Iron Springs	7 Ariz.	22	14N	3W	6000	4/1	0.0	0.0	0.0	0.0	6	0.0
Camp Wood*	8 "	3	16N	6W	5700	4/1	0.0	0.0	0.0	0.0	6	0.1
Willor Ranch	15 "	16	21N	11W	5000	4/1	0.0	0.0	0.0	0.0	5	0.0
	Average for drainage						0.0	0.0	0.0	0.0		0.0
LOWER COLORADO RIVER												
Bright Angel	11 Ariz	34	33N	4E	8400	4/1	58.6	22.6	4.5	8.6	4	6.0
Grand Canyon	10 "	21	30N	4E	7500	4/1	13.3	4.5	1.4	0.0	4	0.7
Fort Valley	12 "	22	22N	6E	7350	4/1	13.4	5.6	0.0	0.0	5	1.2
Chalender	9 "	27	22N	3E	7100	4/1	22.1	9.3	0.0	0.0	5	1.5
	Average for drainage						26.8	10.5	1.5	2.1		2.4

*On adjacent drainage

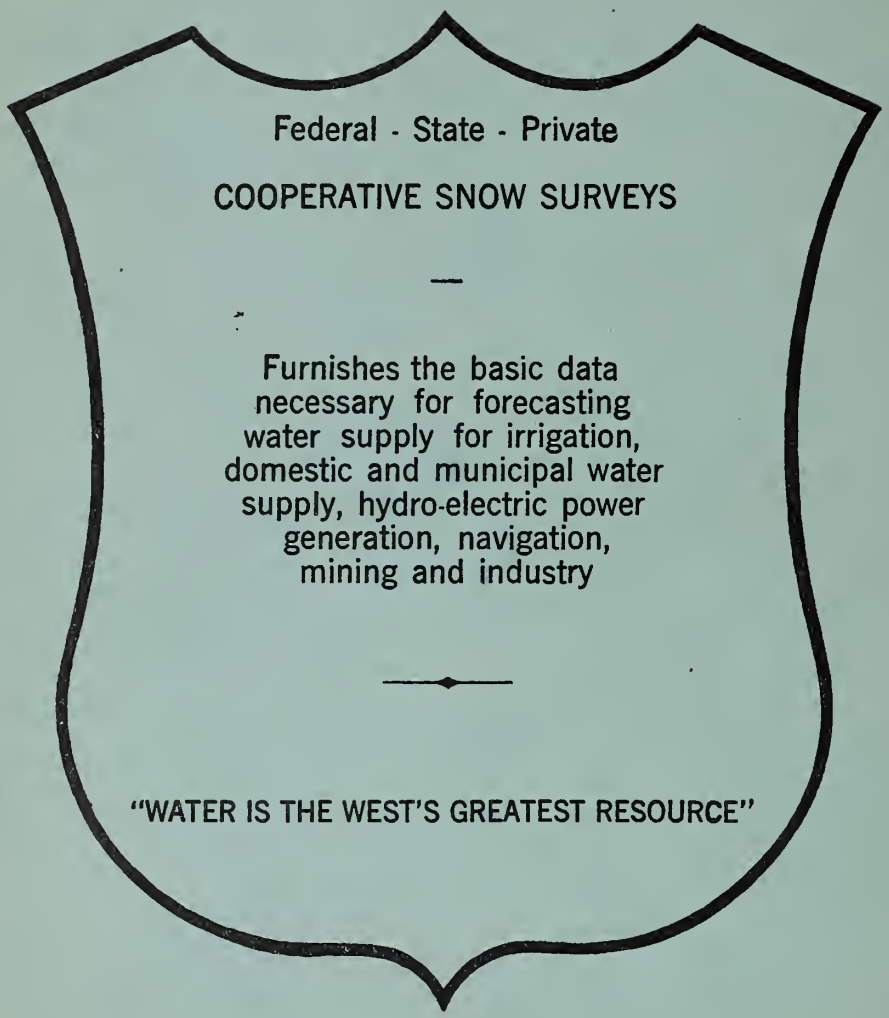
COLORADO RIVER SNOW SURVEYS
April 1, 1952

Drainage Basin and Snow Course	Location					Snow Course Measurements						
								Water Content (Inches)			Past Record	
	No. and State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (Inches)	1952	1951	1950	Yrs. of Rec.	Av. Water Content (Inches)
GREEN RIVER												
East Rim Divide	44 Wyo.	32	37N	111W	7950				17.1	17.4	16	11.8
Dutch Joe	23 "	33	31N	104W	8700	3/26	43.1	11.0	10.4	11.2	13	8.2
Mulligan Park	24 "	17	35N	108W	8900	4/1	42.7	11.7	16.5	15.0	16	10.9
Kendall R.S.	25 "	23	38N	110W	7900	4/1	42.7	12.0	14.0	13.1	15	11.6
Loomis Park	26 "	14	37N	111W	8500	4/1	57.1	20.1	25.6	26.6	16	17.0
Snyder Basin R.S.	27 "	15	29N	114W	8040	3/27	55.0	18.0	22.1	10.2	15	13.4
Piney-LaBarge	28 "	19	29N	114W	8820	3/27	71.0	25.0	24.8	24.4	15	17.9
Hewinta R.S.	34 Utah	33	3N	13E	9500	3/28	51.8	13.9	9.9	11.6	12	9.7
Hole-in-Rock	35 "	13	2N	15E	9150	4/1	37.7	10.7	5.4	5.7	15	6.0
King's Cabin (U)	39 "	22	1S	21E	8800	3/30	58.9	18.4	8.2	13.1	15	10.5
King's Cabin (L)	39A "	23	1S	21E	8600	3/30	52.5	15.9	6.6	13.1	13	10.1
	Average for drainage						51.2	15.7	14.4	14.4		11.5
DUCHENSE RIVER												
Lake Fork Mt.	36 Utah	3	2N	5W	10500	3/28	71.7	21.7	10.6	16.0	16	10.8
Paradise Park	37 "	7	3N	1E	10500	4/1	67.1	20.7	7.4	10.0	15	12.5
MoshyMt. (L)	38A "	5	2N	1E	9500	4/1	62.4	19.4	8.8	17.0	13	12.0
Brown Duck Lake	73 "	2	2N	6W	10300	4/1	83.5	30.8	17.8	23.7	--	--
Indian Canyon	40 "	2	11S	10E	9100	4/1	68.3	23.8	7.7	15.6	16	10.3
	Average for drainage						66.9	14.4	8.6	14.6		11.4
PRICE RIVER												
Indian Canyon	40 Utah	2	11S	10E	9100	4/1	68.3	23.8	7.7	15.6	16	10.3
Gooseberry Res.	41 "	25	13S	5E	8700	3/28	106.5	41.5	17.7	22.9	16	20.3
Staley Ranch	42A "	32	12S	7E	7600	3/29	50.8	17.9	2.8	8.5	13	6.2
Dry Valley Divide	42B "	20	12S	8E	7800	3/29	64.8	25.2	7.8	15.0	14	9.8
Hntngtn-Horseshoe	43 "	12	14S	5E	9800	3/28	124.1	50.0	22.4	21.6	16	25.2
Scofield Dam	76 "	22	12S	11W	9000	3/29	62.5	24.1	8.0	15.2		
Mud Creek	77 "	4	14S	11W	8600	3/29	97.1	38.3	15.7	18.3		
	Average for drainage						82.9	31.7	11.7	16.7		14.4

COLORADO RIVER SNOW SURVEYS
April 1, 1952

Drainage Basin and Snow Course	Location: No. and State	Sec.	Twp.	Range	Elev.	Snow Course Measurements: Date of Survey	Snow Depth (Inches)	Water Content (Inches): 1952	1951	1950	Past Record: Yrs. of Rec.	Av. Water Content
SANRAFAEL RIVER												
Hntngtn-Horseshoe	43 Utah	12	14S	5E	9800	3/28	124.1	50.0	22.4	21.6	16	25.2
Seeley Creek R.S.	48A "	25	17S	4E	10000	3/27	94.3	37.8	13.0	11.6	14	16.3
	Average for drainage						109.2	43.9	17.7	16.6		20.8
VIRGIN RIVER												
Gravel Spgs.Jnct.	56 Utah	22	38S	6W	7500	3/28	38.1	14.1	0.0	0.0	16	5.0
Harris Flat R.S.*	57 "	24	38S	7W	7700	3/26	57.5	21.1	0.0	8.7	16	9.5
Duck Creek R.S.*	58 "	11	38S	8W	8560	3/26	87.4	32.7	7.2	15.5	15	16.5
Cedar Breaks*	59 "	13	37S	9W	10200	3/26	116.3	44.7	10.2	19.1	16	24.8
Webster Flats*	61 "	20	37S	9W	9200	3/26	99.9	37.3	6.6	14.1	16	18.9
Pine Valley	62 "	3	40S	15W	9150	3/31	83.2	33.1	6.4	14.8		
	Average for drainage						80.0	30.0	4.8	11.5		15.9
COLORADO R. (S.E.	UTAH)											
LaSal Mt.	64 Utah	5	27S	24E	8800	4/1	62.2	21.8	4.9	12.5	16	10.0
Buckboard Flat	65 "	36	33S	22E	9000	3/29	73.0	26.6	6.6	13.1	15	15.0
	Average for drainage						62.6	24.2	5.8	12.8		12.5

*On adjacent drainage


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COOPERATIVE SNOW SURVEYS
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"WATER IS THE WEST'S GREATEST RESOURCE"